

Report 10376
March 1994

GENCORP
AEROJET

**Earth Observing System/
Advanced Microwave Sounding Unit-A
(EOS/AMSU-A)
Developer Derating Policy**

**Contract No. NAS 5-32314
CDRL 502**

Submitted to:

**National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771**

(NASA-CR-189356) EARTH OBSERVING
SYSTEM/ADVANCED MICROWAVE SOUNDING
UNIT-A (EOS/AMSU-A): DEVELOPER
DERATING POLICY (Aerojet-General
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Submitted by:

**Aerojet Electronic Systems Plant
1100 West Hollyvale Street
Azusa, California 91702**

Aerojet

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1. SCOPE

This Developer Derating Policy (DDP) is submitted in accordance with the deliverable data requirements of GSFC 420-05-01, Performance Assurance Requirements (PAR) for Earth Observing System (EOS), section 5.3.3 under Contract No. NAS 5-32314, CDRL 502.

This report is submitted to communicate the piece part derating guidelines which will be used on EOS/AMSU-A.

2. REQUIREMENTS

The derating requirements/factors tabulated in appendix "B" of the Goddard Space Flight Center Preferred Parts List (GSFC PPL) and appendix "A" of MIL-STD-975 (NASA Standard Electrical, Electronic, And Electromechanical (EEE) Parts List) shall be used. Where differences occur, the PPL derating factors shall have precedence over the derating factors of MIL-STD-975. When a derating factor is not provided in either the PPL or MIL-STD-975, the GSFC EOS Parts Branch Specialist shall be consulted. In addition, the PAR stipulates that all piece parts shall function at or above twice the expected ionizing radiation dose.

3. VERIFICATION

The derating requirements of the PPL and MIL-STD-975 are assured via, design reviews held for each assembly and the "as designed parts list" (CDRL 527) which will contain the maximum rated capability such as voltage, current, power, temperature, etc. for each part. In addition, CDRL 527 will contain an ionizing Radiation Design Margin (RDM) demonstrated by either analysis and/or test. The analysis shall show the part in its worst-case electrical application meets the Aerojet specified radiation level. This specified radiation level establishes a minimum RDM of twice the derived level.